

CLAIMS

What is claimed is:

1. A positioning structure for a scanning article, applied in a scanning apparatus having a scanning platform, a scanning light source received in the scanning platform and an image acquisition system arranged in a light path of the scanning light source for slidably contacting with the scanning platform, the positioning structure comprising:

a hollow shell disposed on the scanning platform and having at least one opening and projected portion formed thereon;

a stop portion formed between the projected portion and the scanning article;

at least one flexible element fixed in the hollow shell opposite the scanning platform; and

a positioning module assembled with the hollow shell;

whereby users place the scanning article into the hollow shell through the opening, and the scanning article is positioned in a predetermined position for scanning by the positioning module.

2. The positioning structure as claimed in claim 1, further comprising a transparent plate disposed between the hollow shell and the scanning platform for allowing a light of the scanning light source into the hollow shell through the transparent plate.

3. The positioning structure as claimed in claim 1, the positioning module further comprising a right-width positioning sliding block, a left-width positioning sliding block horizontally disposed at a left side of the right-width positioning sliding block, and a length positioning sliding block vertically disposed at a side of the right-width positioning sliding block and the left-width

positioning block, each of the positioning sliding blocks having at least one protrusion formed thereon, and the protrusion received in the hollow shell through the opening and the flexible element.

4. The positioning structure as claimed in claim 3, the protrusion having a transparent stop portion formed at an end thereof for contacting the scanning article.

5. The positioning structure as claimed in claim 3, the positioning module further comprising at least one gear having a non-curved surface formed at an edge thereof, the non-curved surface being pivoted on the protrusion.

10 6. The positioning structure as claimed in claim 3, the positioning module further comprising at least one elastic element, one end of the elastic element being connected to the hollow shell.

7. The positioning structure as claimed in claim 5, the protrusion having a gear portion for mating with the gear of the positioning module.

15 8. The positioning structure as claimed in claim 5, the gear having a first gear and a second gear stacked to the first gear at the same axle center, the first gear having a pitch diameter 1/2 time longer than that of the second gear for positioning the scanning article in a predetermined position for scanning.

9. The positioning structure as claimed in claim 6, wherein another end of the elastic element contacts the protrusion for providing elasticity.

20 10. The positioning structure as claimed in claim 1, the opening having a cover plate disposed near the scanning article.

11. A positioning structure for a scanning article, applied in a scanning apparatus having a scanning platform, a scanning light source received in the scanning platform and an image acquisition system arranged in a light path of the scanning light source for slidably contacting the scanning platform, the

positioning structure comprising:

a hollow shell disposed on the scanning platform and having at least one opening therein and a projected portion formed thereon;

5 a transparent plate disposed between the hollow shell and the scanning platform for allowing a light of the scanning light source into the hollow shell through the transparent plate;

a stop portion formed between the projected portion and the scanning article;

10 at least one flexible element fixed in the hollow shell opposite the scanning platform for preventing foreign objects or light from entering the shell through the opening;

a positioning module having a right-width positioning sliding block, a left-width positioning sliding block horizontally disposed at a left side of the right-width positioning sliding block and a length positioning sliding block
15 vertically disposed at a side of the right-width positioning sliding block and the left-width positioning sliding block, each of the positioning sliding blocks having at least one protrusion formed thereon, and the protrusion received in the hollow shell through the opening and the flexible element for contacting with the hollow shell; and

20 a backward module disposed under the opening and in the concave portion of the hollow shell;

wherein users place the scanning article into the hollow shell through the opening, the scanning article is positioned in a predetermined position for scanning by the positioning module, and after the scanning article is scanned,
25 the backward module protects the scanning article from deformation and damage by the positioning structure.

12. The positioning structure as claimed in claim 11, the protrusion having a transparent stop portion formed at an end thereof for contacting with the scanning article.

13. The positioning structure as claimed in claim 11, the positioning
5 module further comprising at least one gear and elastic element, the gear having a non-curved surface formed at a side thereof, the non-curved surface being pivoted on the protrusion, and one end of the elastic element being connected to the hollow shell.

14. The positioning structure as claimed in claim 13, the protrusion having
10 a gear portion for mating with the gear.

15. The positioning structure as claimed in claim 13, the gear having a first gear and a second gear stacked with the first gear on the same axle center, the first gear having a pitch diameter $1/2$ times longer than that of the second gear for positioning the scanning article in a predetermined position for scanning.

16. The positioning structure as claimed in claim 13, wherein another end
15 of the elastic element contacts the protrusion for providing elasticity.

17. The positioning structure as claimed in claim 11, the backward having
at least one link and elastic element, the link penetrating through the hollow shell, and the elastic element being connected between the hollow shell and
20 the link for providing elasticity.

18. The positioning structure as claimed in claim 11, the backward having
at least one link and elastic element, the link being pivoted on the hollow shell, and the elastic element being connected between the hollow shell and the link for providing elasticity.

19. The positioning structure as claimed in claim 11, the backward having
25 a plurality of links and at least one elastic element, the links being connected

with each other, and the elastic element being connected between the hollow shell and the link for providing elasticity.

20. The positioning structure as claimed in claim 11, the opening having a cover plate disposed near the scanning article.